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Cephalopod-Inspired Cellular Engineering

Tech ID: 33774 / UC Case 2019-926-0

BRIEF DESCRIPTION

This technology introduces a novel method for dynamically tuning the optical properties of living cells by expressing cephalopod proteins.

FULL DESCRIPTION

The technology involves the expression of optically active cephalopod proteins in mammalian cells, allowing these cells to dynamically change their optical properties. This mimics the natural ability of cephalopods to control their appearance, providing a biocompatible solution to adjust the optical properties of materials for various applications, including biomedical imaging.

SUGGESTED USES

- » Biomedical imaging technologies leveraging biocompatible materials.
- » Research tools for studying cellular behavior and protein dynamics.
- » Therapeutic applications targeting protein aggregation in neural diseases.

ADVANTAGES

- » Enables tunable control of optical properties in living cells, bypassing biocompatibility issues.
- » Provides a biologically relevant model system for studying the behavior of optically active cephalopod cells.
- » Facilitates the controlled aggregation of proteins, offering potential solutions for biomedical challenges.

PATENT STATUS

Patent Pending

RELATED MATERIALS

- » Chatterjee A, Cerna Sanchez JA, Yamauchi T, Taupin V, Couvrette J, Gorodetsky AA. Cephalopod-inspired optical engineering of human cells. Nat Commun. 2020 Jun 2;11(1):2708. doi: 10.1038/s41467-020-16151-6. PMID: 32488070; PMCID: PMC7266819.

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OTHER INFORMATION

CATEGORIZED AS

- » **Medical**
 - » Imaging
 - » Research Tools
- » **Research Tools**
 - » Other
 - » Protein Synthesis

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2019-926-0

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